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Abstract:
Minority expropriation could result when controlling shareholders can expropriate minority shareholders and profit from private benefits of control. This agency conflict (named Type II) has been rarely studied, as the most commonly assumed agency conflict resides between managers and shareholders (Type I). We want to study the role of the auditors in reducing the type II agency conflict. Using an audit fees model derived from Simunic (1980), we study the impact of type I and type II agency conflicts on audit fees in code law vs common law countries. We then focus two civil law countries (Germany and France) providing a lower investor protection level, and two common law countries (the USA and UK) providing a higher investor protection level (La Porta et al. 1998, 2000). Our results show 1) a negative relation between audit fees and managerial shareholding, which is stronger for common law than for civil law countries; 2) a curvilinear (concave) relation between audit fees and controlling shareholding for civil law countries; 3) no Type II conflict in the common law countries. These results illustrate the mixed effects of the legal environment and of each agency conflict on audit fees.

Keywords: audit fees, controlling shareholder, minority expropriation, agency conflict.

Ownership concentration and audit fees: do auditor matter most when investors are protected least?[1]

1. Introduction

Previous literature evidenced that civil law countries present weak investor protection compared to common law countries which gives shareholders incentives to hold large part of capital to better control managers (La Porta et al. 1999; La Porta et al. 2000). Consequently, ownership is more concentrated in civil law countries and the agency conflict between managers and shareholders (called type I agency conflict) is reduced (Shleifer and Vishny 1997; La Porta et al. 1998; La Porta et al. 1999; Denis and McConnell 2003; Gillan and Starks 2003). However, this situation gives controlling shareholders the possibility to profit from private benefits of control which raises a new agency conflict between controlling shareholders and minority shareholders (called type II agency conflict). Indeed, (La Porta et al. 2000, p. 4) assert that "Investor protection turns out to be crucial because, in many countries, expropriation of minority shareholders and creditors by the controlling shareholders is extensive".

Corporate governance is, to a large extent, a set of mechanisms through which outside investors protect themselves against expropriation by the insiders[2]. We investigate a complementary firm-level corporate governance to better protect minority shareholders: auditing. Auditors' role is to increase trust on corporate information by reducing the possibility of manipulation of accounting numbers. Traditional audit fees model (Simunic 1980) explains that the amount of audit fees is a function of (1) the effort of the auditor during the engagement and (2) the risk incurred by the auditor after the disclosure of his/her audit report (risk premium). Consequently, agency conflicts should influence the risk premium (Lafond and Roychowdhury 2008) and thus the audit pricing.

Most of prior research focuses on the impact of the type I agency conflict on audit pricing because they have been mainly made in common law countries, particularly in the USA and the UK where ownership is dispersed. These studies find a negative relation between

[1] This title has been inspired from Lang et al.'s (2004) title paper: Concentrated control, analyst following, and valuation: Do analysts matter most when investors are protected least? *Journal of Accounting Research* 42 (3): 589-623.

[2] We refer to both managers and controlling shareholders as the "insiders".

management ownership and audit fees and conclude that audit plays a governance role to mitigate type I agency problems (Agrawal and Jayaraman 1994; Gul and Tsui 2001; Nikkinen and Sahlstöm 2004). To our best knowledge, only one study (Fan and Wong 2005) focuses on type II agency conflict across countries while this conflict is predominant in the world (La Porta et al. 2000). Indeed, controlling shareholders have the possibility to expropriate minority shareholders and profit from private benefits of control, therefore type II agency conflict is likely to influence audit pricing.

Moreover, Niemi (2005) and Hay et al. (2006) underline that very few studies examined the relation between ownership and audit fees and these studies present mixed results about the direction and the significance of the relation between ownership concentration and fee levels. We suggest two alternative perspectives to explain these ambiguous results.

First, previous studies define ownership concentration as the insiders' ownership with the exception of only two studies (Peel and Clatworthy 2001; Fan and Wong 2005). Therefore, previous research does not distinguish between both types of conflicts, which could potentially lead to conflicting effects on audit fees. In this study, we examine the impact of both agency conflicts separately.

Second, based on the results of La Porta et al. (2000), we suggest that the legal system should play an important role in influencing audit fees risk premium related to agency conflicts (type I vs. type II agency conflicts). We then suggest that in weak investor protection countries, the relationship between audit fees and minority expropriation should be curvilinear (concave) while the few studies which isolate this conflict assumed its linearity. Namely, it is likely that a type II conflict first increases with the percentage of controlling shareholders ownership (entrenchment effect). Then, when controlling shareholders hold a very large part of capital, their interests could be expected to be aligned with the interests of minority shareholders, therefore mitigating type II agency problems and decreasing audit fees (alignment effect).

We use regression analyses on non financial listed companies over 17 countries (10 code law and 7 common law countries) on 2006-2008. We then focus on four countries (Germany and Franc for code law and UK and the USA for common law countries). First, the results of this study show a negative relation between management ownership and audit fees stronger in common law countries than in code law countries. We assume that type I agency conflict is less severe in firms where the manager hold large percentage of cash flow rights because he is more invested in the company, which leads to less effort from auditors and decreases the

scope of the audit engagement. These results support the incentive alignment effect that suggests that management ownership contributes to align the manager interests with those of the investors. Therefore, auditors charge lower fees for firms where manager hold large shareholding than they do for firms where ownership and control is separated.

Second, we find different results depending on the country investor protection level for the relation between ownership concentration and audit fees. In lower investor protection environment (civil law countries), we find a significant quadratic relation between the controlling shareholders capital rights and audit fees. Audit fees first increase with the controlling shareholders ownership: audit could be seen here as a substitution mechanism to mitigate internal corporate governance weaknesses. Then, beyond a threshold of around 20-25%, the relation becomes negative. We assert that very high ownership concentration does not harm the interests of minority shareholders: cash flows resulting from the detention of shares are superior to the private benefits of control, which contribute to align the interests of controlling shareholders with the interests of minority. These results are consistent with the Williamson's (1983) substitution hypothesis.

In high investor protection countries (common law countries), our results show that controlling shareholding level does not influence audit fees. We therefore conclude that the type II agency conflict is non relevant in high investor protection (for instance the USA) and that auditors do not ask for a risk premium. Our results are coherent with the results of La Porta et al. (2000) on investor legal system. In common law countries, the main agency conflict is the one opposing shareholders and managers.

We contribute to the existing literature in several ways. First, this is the first study that examines the influence of agency conflicts (type I and type II) on audit pricing in relation to investor protection and legal systems. Also, Niemi (2005) and Hay et al. (2006) notice the absence in audit research of studies on ownership structure, particularly the influence of non managerial ownership concentration on audit fees. Our study aims to fulfill this need in demonstrating that the relation between ownership concentration and fee levels depend on the investor protection legal system assuming two levels of investor protection (high: common law countries, weak: civil law countries). Then, in civil law countries, the relation is likely to be curvilinear: the behavior of shareholders depends of the level of ownership concentration. This study therefore contributes to the research on corporate governance mechanisms in putting in evidence the effect of type II agency conflict (La Porta et al. 1998).

The paper is organized as follows. The next section (section 2) provides the theoretical framework and section 3 develops our hypotheses. Section 4 presents the research design and section 5 provides the sample selection procedures and descriptive statistics. Regressions results are disclosed in section 6 and discussed in section 7. Finally we summarize the main findings and limits of our study.

2. Investor protection and corporate governance

2.1 Ownership concentration as a substitute governance mechanism in low investor protection countries

La Porta et al. (1998) first evidenced that the investor protection regulations and its enforcement vary across countries and legal families. They show that civil laws give investors weaker legal rights than common laws, the weakest protection being given by French-civil law countries (with German-civil-law and Scandinavian countries fallen between the other two). Then they wonder whether the poor protection countries have other substitute mechanisms of corporate governance. First, they check whether the quality of law enforcement substitutes or compensates for the quality of laws. Their results reject this hypothesis: the quality of the enforcement is the highest in the Scandinavian and German-civil-law countries, next highest in common law countries, then again the lowest in French-civil-law countries. If it does not exist at the country level, a substitute mechanism of corporate governance may be set by shareholders themselves. They therefore investigate a firm-level substitution mechanism: ownership concentration. They posit two main reasons for which ownership in weaker investor protection countries should be weaker. First, "large, or even dominant shareholders who monitor the managers might need to own more capital, ceteris paribus, to exercise their control rights and thus to avoid being expropriated by the managers" (La Porta et al. 1998, p. 1145), which is especially true when legal protection is weak.. Second, small investors may not be willing to buy shares at high prices, because of the risk of expropriation: therefore, as firms are not likely to issue shares at low prices, this effect increases indirectly the ownership concentration.

La Porta et al 's (1998) results suggest that highly concentrated ownership may substitute at the firm level for weak investor protection stated at the country level. La Porta et al (2000) privilege the legal approach of corporate governance, which "holds that the key mechanism is the protection of outside investors (whether shareholders or creditors) through the legal

system, meaning both laws and their enforcement". They suggest that the better investor protection stated in common law countries can be originated in both the judicial tradition and the political history (Roe 2006).

We posit that within the country level investor protection regulations, internal corporate governance mechanisms at the firm level remain pivotal to investor protection to compensate agency problems. La Porta et al (La Porta et al. 1998; La Porta et al. 2000) themselves studied the ownership concentration. In relation to this stream, we want to investigate one specific corporate governance mechanism: auditing.

2.2 Auditing: a firm level substitute for investor protection

Since the role of auditing is to enforce the application of proper accounting polices (Francis and Dechun 2008, p. 157), auditing is part of the corporate governance system (Francis et al. 2003), whose cost has to be beard by the shareholders as one key component of monitoring costs (Jensen and Meckling 1976). It is therefore expected that the auditors will spend more time, relative to regular inspection of accounts, to inspect managers' activities if the agency problem is greater, which may lead to higher audit fees.

A large body of audit research has focused on the determinants of audit fees (Hay et al. 2006) since the original seminal Simunic's work (1980). This author has developed an audit fees model which has become a landmark in audit research. Its starting point is that auditors are jointly liable together with the managers of the financial information quality *vis-à-vis* the financial statement users. Consequently, Simunic (1980) develops an audit fees model that includes two components: audit effort and risk premium.

$$AUDFEE = p*q + E(L)$$

Where AUDFEE is the amount of audit fees, p: hourly pricing, q: number of auditing hours, E(L): risk premium, assessing the probability of expected losses.

The first component (p*q) represents the audit effort needed, which depends of the difficulty of the audit engagement. The determinants are mainly the size of the client and its organization complexity that is largely related to the industrial sector, internationalization degree, etc. The second element represents a premium related to the expected risk of paying post auditing losses in case of unveiled audit failure.

Lyon and Maher (2005) argue that much of the prior literature on auditor's risk focuses on litigation risk, which is the risks of incurring liability payments and of damaged reputation for the quality of its services (Palmrose 1986; Francis and Simon 1987; Simunic and Stein 1996; Willenborg 1999; Venkataraman et al. 2008; Feldmann et al. 2009). All these studies evidence the importance of risk premium component in the audit fees levels due to the positive relationship between audit fees and litigation risk.

Recently, research has also studied the impact of different legal environments on the audit fees risk premium. Francis et al.(2003) evidence the effectiveness of auditing as an enforcement mechanism in limiting managerial opportunism across different investor protection regulation systems. Francis and Dechun (2008) show that auditor incentives change as investor protection regimes become stricter, and there is a greater likelihood that client misreporting is detected and auditors are punished. Choi et al. (2009) argue that legal environments play a crucial role in determining the auditor's legal liability and show that auditors charge higher fees for firms that are cross-listed in countries with stronger legal regimes.

We extend this stream of research by focusing on the impact of differentiated agency conflicts across investor protection systems. Hay et al. (2008) posit that previous studies generally suggest a substitution effect between internal corporate governance control and external auditing, hence better internal control is associated with lower audit fees. However, the evidence about this issue is mixed (Hay et al. 2008). In their literature review on audit fees, Hay et al. (2006) advocated for further investigation on this topic as given the observed contradictory results.

3. Hypotheses development

According to La Porta et al. (1998), the observed difference in ownership concentration between common law versus civil law countries should result from the difference in investor protection law. One consequence of this finding should be that agency conflicts are not similar in both systems. In common law countries, the consequence of a lower ownership concentration is that agency conflicts between shareholders and managers are more likely to exist (La Porta et al. 2000), as shareholders have less monitoring and controlling power through their ownership. By contrast, firms in civil law countries are more likely to be owned and controlled by larger shareholders, which decreases the likelihood of having an agency

conflict between them and the managers (Shleifer and Vishny 1997; La Porta et al. 2002), but increases the likelihood of agency conflicts between controlling shareholders and minority shareholders (Shleifer and Vishny 1997). The next two sections will consequently develop both kinds of agency conflict and their respective impact on audit fees.

3.1 Low ownership concentration: a type 1 agency cost in high investor protection law countries

Jensen and Meckling (1976) distinguish between "insiders" (management and controlling shareholders) and "outsiders". The former control the firm, are part of their management or nominate their members because they hold exclusive voting rights while the latter do not have voting rights in excess to their cash flow rights. As strong investor protection countries are characterized by a low ownership concentration, it can therefore be hypothesized that the dominant agency conflict in these countries should be the conflict between the shareholders and the managers. According to Jensen and Meckling (1976), managerial ownership contributes to reduce type I agency conflicts (manager vs. shareholders), in aligning the interests of managers with those of the shareholders. It is considered as a complementary motivation for managers to incite themselves to better control the firm and then achieve better performance (Jensen and Warner 1988; Hart and Moore 1990). Consequently, in organizational structures characterized by high managerial ownership, the separation between ownership and control is lower and information asymmetry is weaker than in other organizations, which should result in a weaker demand of assurance (less monitoring cost). As a consequence, it can be hypothesized that monitoring costs, including audit fees, are higher for firms with lower manager ownerships, as argued by Agrawal and Jayaraman (1994), Gul and Tsui (2001). Indeed, DeFond (1992) posits that the extent of agency conflicts determines the degree of auditing needed to make management credible to current and potential investors. Therefore, the higher the extent of the agency conflicts are, the higher the demand for audit quality should be.

Several studies have established relations between auditor choice or audit fees on the one hand and management ownership on the other hand. Agrawal and Jayaraman (1994), Gul and Tsui (2001), Nikkinen and Sahlstöm (2004) found a negative association between audit fees and management ownership. Other research shows that the probability to choose a big audit firms (audit quality) increase in firms where the information asymmetry is high between owners and managers (Francis and Wilson 1988; Beatty 1989; DeFond 1992).

One of the main raisons explaining the decrease in demand of audit quality is that owner-managers are more invested in daily operational duties. They are consequently more likely to better manage the company asset that non owner-managers. Abdel-khalik (1993, p. 49) suggests that "the voluntary demand for audit (positive) assurance emanates from the needs of owner/managers of privately owned companies to compensate for the loss of control associated with increasing organizational complexity". The amount of audit fees is increasing with the organizational complexity. Consequently, firms that are owned by their managers are likely to have weaker audit fees.

Another reason is related to managers' behavior toward the risk. Jensen (1986) shows that managers who invest their own money in the company are more risk adverse in their decisions than other managers with a more diversified portfolio. Lafond and Roychowdhury (2008) show that the decrease of managerial ownership increases the agency conflict between managers and shareholders, which increases the demand for a more conservative financial statement approach. Using a sample of 648 Australian firms, Gul et al. (2003) show that there is a positive association between discretionary accruals and audit fees, and that managerial ownership negatively affects the positive relationship between discretionary accruals and audit fees.

Finally, firms that are managed by a manager/owner are characterized by a weaker level of information asymmetry, a weaker level of organizational complexity and a weaker audit risk, which results in a decrease in audit demand. Moreover, as given the lower ownership concentration in strong investor protection countries, agency conflict between shareholders and managers should be more accurate. Therefore, we state hypothesis H1 as follows:

H1: Audit fees are more significantly negatively related to managerial ownership in strong investor protection countries than in weak investor protection countries.

3.2 High ownership concentration: a type 2 agency cost in weak investor protection countries

Several studies (Shleifer and Vishny 1997; La Porta et al. 1998; La Porta et al. 1999; Denis and McConnell 2003; Gillan and Starks 2003) show that in the majority of countries, the ownership is concentrated and minority interests are not well protected, particularly in civil law countries (La Porta et al. 1998). In this context, high ownership concentration, as

evidenced by La Porta et al 's (1998) to substitute for a weak investor protection regulation, raises a new concern: minority investor expropriation (La Porta et al. 1998, p. 1151; La Porta et al. 2000, p. 4). In a weak investor protection country, controlling shareholders and minority shareholders have both the right to the same dividend per share (Denis and McConnell 2003). However, the former has private benefits of control and can increase his wealth in consuming additional perquisites to the detriment of outsider shareholders. Consequently, when controlling shareholders have an effective control of the firm *via* a high percentage of ownership, they have incentives to expropriate minority shareholders[3] (Shleifer and Vishny 1997), which leads to higher agency conflict between controlling and minority shareholders, called type II agency costs.

Thus, the legal system of investor protection may influence the role of statutory auditors in substituting for agency conflicts between both kinds of shareholders. Hence, auditors should ask for a higher risk premium for auditing financial statements of firms with high type II agency conflict.

Previous studies having studied the impact of a type II agency conflict on audit fees provide mixed results. Fan and Wong (2005) study audit fees determinants in Asia, where family ownership is high and investors are less protected. They test whether auditors ask for an additional premium to their clients when agency conflicts are high. The authors find a positive relation between audit fees and ownership concentration and explain that auditors assume a higher risk to audit those firms. However their study did not differentiate between managerial and controlling shareholding. Chan et al. (1993) posits that, in the absence of regulation, the propensity of firms to demand timely independent audits is a function of the extent of the divorce between ownership and control assuming that a high insider ownership contribute to mitigate agency conflict between manager and shareholders. Using an initial sample of 985 UK listed companies that they divided in two sub-samples (big firms vs non big firms), Chan et al. (1993) show that insider (managerial and major shareholder) ownership is negatively associated to audit fee of the whole sample and the sub-sample of big firms and is non

[3] Expropriation can take a variety of forms. In some instances, the insiders simply steal the profits. In other instances, they sell the output, the assets, or the additional securities in the firm they control to another firm they own at below market prices. Such transfer pricing, asset stripping, and investor dilution, though often legal, have largely the same effect as theft. In still other instances, expropriation takes the form of diversion of corporate opportunities from the firm, installing possibly unqualified family members in managerial positions, or overpaying executives. "Tunneling" allows controlling shareholders to transfer firm assets and benefits out of the reach of both creditors and minority shareholders (Johnson et al. 2000).

significant for the small firms sub-sample. Niemi (2005) tests the model of Chan et al. (1993) on Finnish firms and finds a non significant relation between audit fees and the measure of the combined managerial and non-managerial ownership concentration (i.e. insiders). In France, Piot (2001) finds a non significant relation between insider ownership and the choice of big audit firm (audit quality). Finally, Hay et al (2006) summarize the large body of audit fees determinants research using a meta-analysis and conclude that the results on the relation between ownership structure (insiders) and audit fees are mixed and that they should be interpreted carefully because of the small number of studies. Niemi (2005) explains these result by the fact that managerial and non-managerial ownership concentration should have opposite effects on audit fees. After having distinguished between firms that are controlled by the management, by a foreign holding or by the state, he finds (1) a significantly negative relation between audit fees and management control of the firm; (2) a positive relation between audit fees and state control and foreign holding control.

We already stated a separate hypothesis for managerial ownership. We now focus on the major shareholder ownership by assuming a differentiated impact on audit fees depending on the investor protection regime.

We hypothesize a curvilinear relationship between ownership concentration and audit fees in weak investor protection countries. To the best of our knowledge, the existence of such a curvilinear relation has never been established before[4]. When controlling shareholders have effective control of the firm *via* a high percentage of cash flow rights, they have incentives to expropriate minority shareholders, which leads to higher type II agency costs. Then, auditors demand a high risk premium to audit those firms. Consequently, we suggest a positive relation between the controlling shareholders' ownership and audit fees. But when controlling shareholders ownership exceeds a certain level, controlling shareholders have no incentive to behave on the detriment of the company interest (and therefore, the minority shareholders

[4] We found however studies in corporate governance showing that the behavior of the controlling shareholders is not the same depending on the level of ownership. For instance, Morck et al. (Morck et al. 1988) show a curvilinear relation between firm value measured by the Tobin's Q and the proportion of capital hold by insiders. Based on a sample of 371 Fortune 500 firms, the authors evidence a significant non-monotonic relationship. Tobin's Q first increases with insiders' ownership beyond a level of 5%, then declines when insider ownership exceeds 25%. Using a sample of more than 400 of the largest public Canadian closely-held firms, from 1995 to 1999, Bozec and Laurin (2008) find a non-monotonic relation between performance and the percentage of cash flow of the major shareholders. They suggest that (1) when the ownership is concentrated in the hand of outside shareholders, the latter exerts a control on managers because of large blocks of shares that give them an economic incentive and enough resources to do it; (2) however, these block shareholders are motivated to represent their interests that don't always fit with those of minority shareholders resulting in a minority expropriation.

interests). Holding high level of capital leads them to support all the consequences of their decisions in terms of wealth: private benefits of control become lower than the potential value firm losses that they have to expect (due to decisions that harm minority and company interests). Hence, controlling shareholders will manage the firm to maximize its value by better controlling the manager or participating in its management. In this context, controlling shareholders are the guarantee for a good firm interests' protection and have therefore no incentive to expropriate minority shareholders. Consequently, type II agency conflict is lower and auditors demand lower audit fees since the risk premium is reduced. Hence, for very high level of controlling shareholding, we assume a negative relation between fee levels and controlling shareholders cash flow rights. For instance, Francis et al. (2009) in the French context find a negative relation between audit quality measured by the choice of two big four auditors and the major shareholder ownership[5] when the percentage of his cash flow rights exceed 25%.

We therefore state the following hypothesis:

H2.1: Audit fees are first positively then negatively associated (concave relation) with the ownership concentration in low investor protection countries

However, firms in well protected environment should not suffer from type II agency conflict (controlling vs minority shareholders) and the prevalent agency costs are those due to type I agency conflict (managers vs shareholders). For instance, Peel and Clatworthy (2001) did not find a significant relationship between audit fees and major shareholding in UK listed firms. We therefore state the following hypothesis:

H2.2: Audit fees are not related to ownership concentration in high investor protection countries.

4. Research design

We use the following regression model to test our hypotheses:

[5] The authors use a dichotomous variable that takes 1 when the major shareholder ownership exceeds 25% of cash flow rights.

$$LOGAUDFEE = \beta_0 + \beta_1 CSHCAP + \beta_2 CSHCAP2 + \beta_3 DCAP + \sum_{k=1}^{7} \delta_k FSCONTROL + \sum_{j=1}^{3} \chi_j CSCONTROL + Fixed\ effects + \varepsilon$$

Where LOGAUDFEE is defined by the natural logarithm of audit fees (in KUSD), FSCONTROL denotes firm-specific variables and CSCONTROL denotes country-specific variables. All variables are defined in Table1.

The test variable for H1 is DCAP and represents the managerial ownership. The coefficient on DCAP (β_3) thus captures the audit fee discount in case of managerial ownership. As H1.1 states a general negative relationship between managerial shareholding and audit fees, we therefore expect β_3 to be negative on all countries. However, as H1.2 states a more significantly negative relationship between managerial shareholding and audit fees in stronger than in weaker investor protection countries, we therefore expect β_3 to be more significantly different from 0 in common law countries than in code law countries.

The test variables for H2 are SHCAP and SHCAP2. SHCAP is computed as the sum of the shareholders owning more than 5% of the firm shares. Both H3 hypotheses are based on a quadratic relationship between the controlling shareholders ownership and the audit fees. Due to inherent collinearity issues between the linear and the quadratic terms, we use a transformation of the variable SHCAP and mean center it in the following manner: CSHCAP= SHCAP – mean (SHCAP), which allows us also to construct CSHCAP2= $(CSHCAP)^2$.

The expected sign on β_2 depends on the hypotheses. As H2.1 states a curvilinear (positive then negative) relationship between controlling shareholders' cash flow rights and audit fees for lower investor protection countries, then we expect β_1 and β_2 to be negative for these countries. On the contrary, as H2.2 states the absence of relationship between controlling shareholders' cash flow rights and audit fees for higher investor protection countries, then we expect the couple (β_1 , β_2) to be non significant for these countries.

Our audit fees model includes two types of firm specific control variables, which control for: (1) audit costs (size and complexity); (2) the risk of loss that an audit could face in the future (Simunic 1980; Francis 1984; Hay et al. 2006). The audit cost is estimated by LOGSALES which proxies for client size, and two variables which proxy for client complexity: INVREC,

INTPCT. Similar to Simunic (1980) and Choi et al. (2009), we include LOSS and LEV to measure the client-specific litigation risk potentially borne by the auditors. Finally, we include the audit firm size (BIG) to capture the Big4 premium (Francis 1984). As client size, client complexity and client-specific risks should be positively correlated to audit fees, we expect all the coefficients from δ_1 to δ_6 to be positive.

We include three country-level control variables in the cross-country regressions. First Wingate (1997) reports anecdotal evidence based on assessments of a leading underwriter of auditor indemnity insurance. Then we expect GDP (Gross domestic product) to have a positive association, as audit fees are likely to be higher in rich countries than in poor countries. Third the demand for audit services is likely to be higher in countries with more foreign direct investments (FDI) than in countries with less. Finally, model includes also fixed year effects and country effects and an error term (ε).

Low and high investor protection countries is implemented through LAW, coding for common (LAW=1) and code (LAW=0) countries, to check the impact of the regime on audit fees, as common law countries are supposed to demand higher audit fees because of a higher likelihood and higher financial sanctions of being liable for any unveiled audit failure (Francis and Dechun 2008). We therefore create code and common law subsample.

5. Sample and descriptive statistics

Our sample is initially composed of all firms for which audit fee data are provided by Worldscope over the period 2006-2008. Table 2 explains the sample selection process.

**** Insert Table 2 here ***

We exclude firm-year observations with missing values for the independent variables, and we drop. We dropped two countries (Canada and India) for which ownership data are irrelevant and countries with less than 50 observations. We also dropped financial institutions (Standard Industrial Classification [SIC] 6000-6999). We finally dropped extreme outliers at the country-level and we also removed outliers that have a Cook's distance value greater than 4/(sample size) for each regression at the country level. We finally obtain 8 647 firm-year observations (hereafter named firm observations for ease of notation).

Table 3 presents descriptive the mean values on dependent and independent variables.

**** Insert Table 3 here ***

Data disclosed in this table are consistent with previous literature on similar samples. For instance, variable SHCAP (Capital rights of the controlling shareholders) disclose an average of 0.26 for the USA, which is consistent with the concentration of 0.20 observed by La Porta et al. (1998, p. 1147-1148) on the sole 3 largest shareholders amongst the 10 largest listed firms of the country. It has also been noticed that block ownership plays an increasingly important role in U.S. capital markets (Brockman et al. 2009). Dlugosz, et al. (2006) find that block ownership increased from 21.7% of outstanding shares in 1996 to 25% in 2001 in their sample of over 1,900 relatively large firms.

Same similarities hold for France (0.44 vs 0.34) and Germany (0.45 vs 0.48), but UK exhibits a much larger difference (0.33 vs 0.19 in La Porta et al.(1998). These differences could be explained by our much larger sample, which therefore includes smaller firms exhibiting larger shareholding. When compared to a larger sample, our data exhibit a smaller difference (for instance 0.27 obtained on 259 UK quoted firms by Peel et Clatworthy (2001)).

Control variables are widely ranged for all countries, which illustrates the diversity of the selected firms within our sample. Our sample includes 17 countries (7 common law and 10 code law countries).

Table 3 also discloses t-values for mean differences between code law and common law countries for all variables. We observe that code law countries exhibits lower audit fees (diff. LOGAUDFEE=-0.105, $p<0.01$), a higher ownership concentration (diff. SHCAP=0.111, $p<0.01$) and a lower managerial ownership (diff. -0.04, $p<0.01$). These results are consistent with the premises of our hypotheses.

Table 4 discloses the correlation matrix of the dependent variable (audit fees) and the whole set of independent variables.

**** Insert Table 4 here ***

This matrix shows that the independent variable (LOGAUDFEE) is negatively and significantly correlated at 1% to the ownership concentration (SHCAP) and managerial shareholding (DCAP) and the occurrence of a loss (LOSS). LOGAUDFEE is also positively and significantly correlated at 1% to sales (LOGSALES), leverage (LEV), audit quality (BIG), international sales (INTPCT) and the legal regime (LAW). The direction of

correlations is consistent with our hypotheses. However, we must run the multivariate analysis before reaching any conclusion on the relations.

The magnitudes of the pairwise correlations among firm specific variable do not exceed 0.4, with the highest significant correlation being between INVREC and INTPCT (coeff.=0.305, $p<0.01$) and LOGSALES and BIG (coeff.=0.299, $p<0.01$). We therefore may have no correlation concerns. However, Table 4 reports high correlation between country specific variables. We therefore also perform regression without the four country-level control variables.

6. Regression results

All tables presented here report the ordinary least squares (OLS) estimates for the models discussed above. P-values are computed using robust standard errors, adjusted for heteroscedasticity and clustering at the firm level. All the regressions are estimated after removing outliers with a Cook's distance greater than 4/sample size within each country or group of countries. This design is similar to Choi et al. (2009). We include a year-effects in all regressions, and the cross countries regression include either country-level control variables or country-effects.

Table 5 presents our main tests.

**** Insert Table 5 here***

Due to the inherent colinearity concerns regarding the use of the term and the quadratic term in the same regression, we transform SHCAP into its mean-centered CSHCAP, defined as: CSHCAP = SHCAP – mean (SHCAP), and thus create CSHCAP2 = $CSHCAP^2$.

Model "Code law countries" shows that DCAP has no significant correlation with LOGAUDFEE. On the contrary, we observe that model "Common law countries" shows a negative and highly significant correlation to LOGAUDFEE (coeff.: -0,453, $p<0,01$).

Table 6 reports coefficient comparisons across models, by using Wald tests (Baum 2006), with the null hypothesis of coefficient equality.

**** Insert Table 6 here ***

Table 6 rejects the null hypothesis: both DCAP estimates are not equal (Chi2=16.93, $p<0.05$).

Therefore we validate H1: Audit fees are more significantly negatively related to managerial ownership in strong investor protection countries than in weak investor protection countries.

Model "Code law countries" shows that CSHCAP (coeff.: -0,423, p<0,01) and CSHCAP2 (coeff. : -0.689, p<0,01) are both negatively and highly significantly correlated to LOGAUDFEE. This result suggests the existence of a curvilinear (concave) relation between audit fees and ownership concentration.

In addition, Table 6 shows that the Wald test rejects the null hypothesis H_0: $(\beta_1, \beta_2) = 0$ for model "Code law countries" and do not reject it for "common law countries". It also reports that both couples (β_1, β_2) estimates for both countries are not identical.

Therefore we validate both H2 hypotheses:

H2.1: Audit fees are first positively then negatively associated (concave relation) with the ownership concentration in low investor protection countries.

H2.2: Audit fees are not related to ownership concentration in high investor protection countries.

We now present some robustness checks.

7. Robustness analyses

First, we change the proxy for some independent variables. For instance we substituted the natural logarithm of total assets to proxy for size, instead of LOGSALES. We also measured SHCAP by the total sum of major shareholders or by the first three major shareholders (La Porta et al. 1998, p. 1146), instead of the sum of >5% ownership. Results are qualitatively similar.

Then, we ran a country-level analysis on four countries (Germany, France, UK and USA). These countries have been selected as given their economic significance, and their diversity regarding investor protection. France and Germany present institutional characteristics which are interesting when one wants to study the impact of type II conflict on audit fees. First, the generally assumed ownership concentration of the French and German listed firms is likely to raise the type II agency conflict (La Porta et al. 1999; Faccio and Lang 2002). Then, France and Germany have been identified by La Porta et al. (1998) as representative countries of two country families. According to La Porta et al. (1998), French civil law countries provide the

weakest investor protection, common law countries provide the highest, with German civil law countries being intermediate. La Porta et al. (1998) do not distinguish among common law countries. However other studies evidence that within common law countries, that investor protection is higher in the US than in the UK. Wingate (Wingate 1997), for instance assess the level of protection as 15 for the USA and 10 for UK (and 6.22 for France and Germany), on a 15 point scale..

Table 7 reports regression results for the four countries.

**** Insert Table 7 here ***

Regarding DCAP, France reports a non significant estimate and Germany reports a negative and significant at 5% estimate (coeff.: -0,703, p<0,05). For both common law countries, DCPA estimates are negative and very significant (UK: coeff.: -0,728, p<0,01; US: coeff.: -0,455, p<0,01). Therefore "H1: Audit fees are more significantly negatively related to managerial ownership in strong investor protection countries than in weak investor protection countries" is confirmed for France (weak investor protection) and the USA and UK (strong investor protection) but not for Germany.

Table 7 shows that ownership concentration estimates for code law countries are consistent with hypotheses 2.1: France exhibits a negative and significant SHCAP estimates (coeff.: -0,416, p<0,05) and SHCAP2 estimates (coeff.: -1.342, p<0,05) and Germany exhibits a negative and significant SHCAP estimates (coeff.: -0,535, p<0,01) and SHCAP2 estimates (coeff.: -1.151, p<0,05).

*** Insert Table 8 here***

Table 8 shows that the joint test (β_1, β_2) = 0 is significant for both code law countries (France: Chi2=7.15, p<0.01; Germany: Chi2=9.85, p<0.01). Therefore H2.1: "Audit fees are first positively then negatively associated (concave relation) with the ownership concentration in low investor protection countries" is confirmed.

Table 8 also reports non significant Chi2 statistics for the USA and significant for UK (Chi2=3.06, p<0.05). Therefore, H2.2: "Audit fees are not related to ownership concentration in high investor protection countries" is confirmed for the USA, but not for UK.

8. Discussion

Results presented above provide an interesting perspective on the determination of audit fees as well as on the agency conflicts. Our results globally confirm the idea that audit fees include a risk premium (Simunic 1980) associated to agency conflicts. Our choice of disentangling managerial from controlling shareholding enables us to clearly evidence their mixed effects on audit fees, as suggested by Niemi (2005).

Managerial ownership is suggested as a governance mechanism to align interests of managers to shareholders' (Jensen and Meckling, 1976). However, managerial ownership can also create management entrenchment at higher level of managerial ownership (Holderness, 2003; Stulz, 1988): the entrenchment/alignment balance has been showed to depend of corporate governance system across countries. In our sample, we namely observe different country relationships between managerial shareholding and audit fees. In code law countries, which provide a low investor protection, there is no relationship. This result is exemplified by France case. In common law countries, which provide a higher investor protection, we found a strong negative relationship, confirmed by the analysis of the US and UK cases. It therefore seems that the alignment hypothesis is mainly evidenced for higher investor protection countries. This result could be explained by the existence of a more efficient market discipline in higher protection countries such as managerial labor market (Fama, 1980), takeover activities (Fama and Jensen, 1983), expert board of directors (Fama and Jensen, 1983), etc.

Regarding the ownership concentration, our descriptive results first confirm that code law countries exhibit a higher major shareholding concentration. We show that the USA is an outlier regarding the diffused ownership: while Germany and France exhibit similar ownership concentration (with a mean around 0.45), the USA reports a much lower mean (0.26), with the UK in the middle range (mean=0.33). Demsetz (1983) and Demsetz and Lehn (1985) argue that ownership structure is designed by each firm so as to be at the optimal level in which profits are maximized, given a specific institutional context. One consequence, according to Shleifer and Vishny (1997), is that concentrated ownership is likely to be found mostly in countries with weak shareholder protection: with concentrated shares, controlling shareholders are better motivated to provide good monitoring and have enough power to challenge poor managers than diffused shareholders. Our results partially evidence this theoretical position.

Concentrated ownership may create agency problem between controlling shareholders and minority shareholders, leading to a risk of minority expropriation, as identified by La Porta et al. (1998) on lower investor protection countries. Controlling shareholders may exercise their power to influence managers for their own benefits without sharing to minority shareholders and firms. Opposition between both effects (entrenchment effect *versus* alignment effect) has also been mobilized about minority expropriation risk by controlling shareholders (Morck et al. 1988; Claessens et al. 2002; Fan and Wong 2005; Attig et al. 2006; Ali et al. 2007). Once again, our results demonstrate a differentiated effect of concentrated ownership on audit fees across legal regimes: code law countries exhibit a curvilinear relationship while common law countries exhibit no relationships. As given the difficulty in interpreting a log-quadratic specification, we graphically represent this relation.

**** Insert Figure 1 ***

For lower investor protection countries (France and Germany), our results demonstrate a curvilinear (concave) relation between audit fees and the ownership concentration of controlling shareholders. Moreover, Figure 1 exhibits a very similar behavior in both countries. Therefore, for lower investor protection countries, audit fees first include a risk premium related to the minority expropriation risk. Around the turn-over point (around 25%), the effect decreases up to zero, then reverses: as the proportion of cash flow held by controlling shareholders becomes high, auditors estimate that the expropriation risk decreases when ownership concentration increases: advantages drawn from private benefits of control seems to become gradually lower that the probable loss incurred by controlling shareholders. Therefore, in firms where the concentration of capital held by controlling shareholders is high, auditors assess that the type II agency conflict is low, which generates a lower risk premium. We therefore validate an entrenchment (resp. alignment) effect on lower (resp. higher) levels of concentrated ownership, for lower investor protection levels.

For higher investor protection countries, our results show that the type II agency conflict is not significantly evidenced. In the UK, the quadratic (resp. linear) term is significant (resp. not significant) and positive, which means the absence of any risk premium related to a type II agency conflict: the positive and significant linear term evidences mainly an alignment effect only on the range of data. In the USA, neither the linear nor the quadratic terms are significant. We can therefore conclude to the absence of any significant risk premium related

to a type II agency conflict in higher investor protection countries: a more efficient market discipline and a higher litigation risk may explain these results.

9. Conclusion

In this paper, we study the influence of ownership concentration levels on audit fees in code law and common law countries by disentangling managerial and controlling shareholding effects. Overall, our results confirm that audit fees include a risk premium related to type I and type II agency conflicts, the latter only for low investor protection countries. We confirm these results in two typical code law (France, Germany) countries and two common law countries (UK, USA). Our study contributes to research on governance mechanisms by evidencing the differential effect of the type II agency conflict in a common *versus* civil law country (La Porta et al. 1998). We show that the effect of agency conflicts on audit fees is complex, and depends on the institutional context. Globally speaking, our study supports the substitution hypothesis of governance mechanisms (Williamson 1983). However, this study suffers from some limits. First of all, our data must be extended to include more country variables to cope with more various investor protection levels than embodied in code *vs* common law legal regimes. Then, variables related to ownership are direct and not ultimate ownership. Despite these limits, our study aims at improving our understanding of the complex relationships between audit fees and ownership structure, by studying the non managerial ownership, which remains very rare (Niemi 2005; Hay et al. 2006). Future research is needed to evaluate the generality of the results in other institutional contexts of investors' protection.

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Table 1: Empirical definitions of variables

Variable	Empirical definition	Data source
Dependent variable and test variables for Firm i in Country j in Year t		
LOGAUDFEE$_{ijt}$ =	natural log of audit fee in thousands of U.S dollars	Worldscope
SHCAP$_{ij}$ =	the ratio of controlling shareholders cash flow rights on total cash-flow rights [(a)]	Worldscope
DCAP$_{ij}$ =	the ratio of managers' shareholders cash flow rights on total cash-flow rights[(a)]	Worldscope
Firm-Specific control variables for Firm i in Country j in Year t		
LOGSALES$_{ijt}$ =	natural log of sales in thousands of U.S dollars	Worldscope
BIG4$_{ijt}$ =	1 if a firm uses one the big 4 auditors, and 0 otherwise	Worldscope
LEV$_{ijt}$ =	the ratio of year-end total debt to total assets	Worldscope
INVEC$_{ijt}$ =	the sum of inventories and receivables divided by total sales	Worldscope
INTPCT$_{ijt}$ =	foreign sales divided by total sales	Worldscope
Country-Specific control variables for Country j		
WINGATE$_{j}$ =	indicator of auditor's litigation risk	Wingate (1997)
GDP$_{jt}$ =	gross domestic product per capita in thousands of US dollars	International Monetary Fund
FDI$_{jt}$ =	foreign direct investment (inward) scaled by GDP	United Nation Conference on Trade & Devt
Criteria for low/high investor protection countries		
LAW$_{J}$ =	1 if a common country, and 0 if a code law country	La Porta et al.(1998)

(a) Worldscope provides us only with current data on ownership structure. We found that, in average, the last update was done in the year 2007. Following Fan et Wong (2005), we assume that controlling and management ownership are stable over the studied period.

Table 2: Sample selection

Nb. of observations with no missing values on audit fees in non East-Asian countries for 2006-2008	27 961
less: nb. of observations from India and Canada (a)	(3 747)
less: missing values on shareholding	(3 722)
less: missing values on other independent variables	(29)
less: nb. of observations from financial institutions (SIC: 6000-6999)	(5 908)
less: nb. of observations from US OTC market or missing data on listing market (b)	(2 607)
less: countries with less than 50 observations (c)	(93)
less: extreme outliers (±3 times interquartile range, country level)	(2328)
less: Cook's residual (>4/N, country level)	(2120)
Total Data	8 647

(a) For still unknown reasons, Worldscope provides both countries obviously abnormally low shareholding data.
(b) OTC US market requirements are lower for auditors, and missing data on listing markets may create noisy effects on audit fees.
(c) Those countries are not included because of an insufficient number of data.

Table 3: Descriptive statistics

	Countries	N	LAW	LOGAUDFEE (mean)	SHCAP (mean)	DCAP (mean)	LOSS (mean)	LEV (mean)	LOGSALES (mean)	BIG (mean)	INVREC (mean)	INTPCT (mean)	GDP (mean)	FDI (mean)	WINGATE index
Australia	AUS	463	1	6.541	0.355	0.078	13.104	0.868	0.078	0.260	0.269	0.350	42.190	31.699	10.00
Switzerland	CHE	65	0	8.232	0.175	0.053	15.185	1.000	0.108	0.206	0.322	0.614	60.634	74.215	6.22
Germany	DEU	539	0	6.828	0.43	0.036	13.912	0.764	0.141	0.205	0.330	0.467	40.197	19.952	6.22
Denmark	DNK	50	0	8.199	0.311	0.002	14.661	0.940	0.060	0.238	0.340	0.616	56.381	40.477	4.82
Spain	ESP	150	0	7.075	0.397	0.106	14.353	0.920	0.053	0.300	0.433	0.369	31.784	39.332	4.82
Finland	FIN	135	0	6.985	0.288	0.076	14.083	0.926	0.096	0.245	0.319	0.561	46.125	34.595	3.61
France	FRA	446	0	7.552	0.441	0.088	14.302	0.543	0.085	0.245	0.385	0.457	41.543	35.424	6.22
U.K.	GBR	1 217	1	7.146	0.332	0.078	13.477	0.850	0.104	0.218	0.286	0.434	43.329	43.406	10.00
Ireland	IRL	71	1	7.252	0.319	0.069	14.210	0.944	0.099	0.267	0.213	0.525	57.486	70.723	6.22
Italy	ITA	22	0	6.335	0.298	0.121	13.623	0.864	0.182	0.316	0.644	0.434	35.457	16.087	6.22
The Nederland	NLD	55	0	9.062	0.322	0.011	15.996	1.000	0.127	0.238	0.329	0.694	47.045	82.272	6.22
Norway	NOR	52	0	7.806	0.442	0.049	14.486	1.000	0.154	0.311	0.318	0.724	83.538	28.928	6.22
New-Zealand	NZL	36	1	6.685	0.488	0.119	13.431	1.000	0.028	0.362	0.272	0.569	28.509	51.992	10.00
Portugal	PRT	34	0	6.997	0.597	0.055	14.421	0.706	0.059	0.408	0.411	0.533	20.920	45.971	3.61
Sweden	SWE	53	1	8.364	0.263	0.04	15.522	1.000	0.038	0.260	0.335	0.668	48.343	58.107	4.82
USA	USA	5 129	1	7.58	0.263	0.11	13.881	0.864	0.184	0.230	0.248	0.277	46.336	14.935	15.00
South Africa	ZAF	130	1	7.476	0.447	0.038	14.470	0.908	0.023	0.179	0.299	0.295	5.687	38.810	4.82
All countries		8 647		7.407	0.307	0.093	13.870	0.847	0.149	0.232	0.276	0.347			
Code law countries		1 601		7.322	0.397	0.061	14.302	0.770	0.105	0.242	0.360	0.497			
Common law countries		7 046		7.427	0.286	0.101	13.772	0.865	0.159	0.230	0.256	0.313			
Mean (Code law) - Mean(Common law)				-0.105	0.111	-0.04	0.53	-0.095	-0.054	0.012	0.104	0.184			
t values for mean differences				-2.911***	18.774***	-10.408***	10.841***	-10.395***	-6.390***	2.746***	28.936***	22.841***			
p values (bivariate tests)				0.004	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.000			

With: LOGAUDFEE: natural log of audit fee in thousands of U.S dollars; SHCAP: the ratio of controlling shareholders cash flow rights on total cash-flow rights; DCAP: the ratio of managers' shareholders cash flow rights on total cash-flow rights; LOGSALES: natural log of sales in thousands of U.S dollars; BIG: 1 if a firm uses one the big 4 auditors, and 0 otherwise; LEV: the ratio of year-end total debt to total assets; INVEC: the sum of inventories and receivables divided by total sales; INTPCT: foreign sales divided by total sales; LAW: 0 if a code law country, and 1 if a common law country; WINGATE: indicator of auditor's litigation risk (Wingate 1997); GDP=gross domestic product per capita in thousands of US dollars; FDI=foreign direct investment (inward) scaled by GDP.

Table 4: Correlation matrix

	LOGAUDFEE	SHCAP	DCAP	LOGSALES	BIG	LOSS	LEV	INVREC	INTPCT	WINGATE	GDP	FDI	LAW
LOGAUDFEE	1												
SHCAP	-0.174***	1											
DCAP	-0.238***	-0.024**	1										
LOGSALE	0.777***	-0.161***	-0.263***	1									
BIG	0.317***	-0.033***	-0.156***	0.299***	1								
LOSS	-0.063***	0.106***	0.057***	-0.225***	-0.027**	1							
LEV	0.146***	0.0556***	-0.036***	0.155***	0.081***	0.049***	1						
INVREC	-0.009	0.048***	-0.064***	-0.101***	-0.109***	0.013	-0.067***	1					
INTPCT	0.284***	0.009	-0.116***	0.176***	0.060***	-0.014	-0.077***	0.305***	1				
WINGATE	0.117***	-0.229***	0.133***	-0.054***	0.067***	0.113***	-0.018*	-0.266***	-0.275***	1			
GDP	0.100***	-0.135***	0.038***	0.019*	0.039***	0.083***	0.024**	-0.105***	0.021**	0.331***	1		
FDI	-0.045***	0.128***	-0.098***	0.037***	0.002	-0.107***	0.015	0.150***	0.251***	-0.722***	-0.148***	1	
LAW	0.031***	-0.182***	0.099***	-0.113***	0.103***	0.059***	-0.023**	-0.273***	-0.227***	0.791***	0.080***	-0.335***	1

* p<0.10, ** p<0.05, *** p<0.01 (bivariate tests)
With: LOGAUDFEE: natural log of audit fee in thousands of U.S dollars; SHCAP: the ratio of controlling shareholders cash flow rights on total cash-flow rights; DCAP: the ratio of managers' shareholders cash flow rights on total cash-flow rights; LOGSALES: natural log of sales in thousands of U.S dollars; BIG: 1 if a firm uses one the big 4 auditors, and 0 otherwise; LEV: the ratio of year-end total debt to total assets; INVEC: the sum of inventories and receivables divided by total sales; INTPCT: foreign sales divided by total sales; LAW: 0 if a code law country, and 1 if a common law country; WINGATE: indicator of auditor's litigation risk (Wingate 1997); GDP=gross domestic product per capita in thousands of US dollars; FDI=foreign direct investment (inward) scaled by GDP.

Table 5: Code vs common law ownership models

LOGAUDFEE	Predicted signs	Code (1)		Code (2)		Common (1)		Common (2)		All (1)		All (2)	
		b/se	p			b/se	p			b/se	p	b/se	p
CSHCAP	?	-0.423***	0.000	-0.409***	0.000	0.008	0.858	0.036	0.600	-0.071	0.216	-0.034	0.566
		-0.071		-0.110		-0.043		-0.069		-0.057		-0.059	
QCSHCAP2	?	-0.689***	0.004	-0.759**	0.041	-0.165	0.256	-0.345	0.136	-0.439**	0.025	-0.609***	0.002
		-0.238		-0.370		-0.145		-0.231		-0.196		-0.197	
DCAP	-	0.078	0.602	0.096	0.658	-0.453***	0.000	-0.436***	0.000	-0.321***	0.000	-0.285***	0.001
		-0.149		-0.216		-0.056		-0.092		-0.085		-0.087	
LOGSALES	+	0.661***	0.000	0.667***	0.000	0.487***	0.000	0.495***	0.000	0.519***	0.000	0.537***	0.000
		-0.012		-0.019		-0.006		-0.009		-0.009		-0.009	
BIG	+	0.269***	0.000	0.151**	0.030	0.310***	0.000	0.297***	0.000	0.290***	0.000	0.241***	0.000
		-0.049		-0.069		-0.026		-0.041		-0.035		-0.036	
LOSS	+	0.301***	0.000	0.275***	0.001	0.289***	0.000	0.303***	0.000	0.317***	0.000	0.337***	0.000
		-0.063		-0.079		-0.024		-0.029		-0.027		-0.028	
LEV	+	0.567***	0.000	0.544***	0.001	0.360***	0.000	0.319***	0.000	0.364***	0.000	0.318***	0.000
		-0.115		-0.166		-0.043		-0.063		-0.059		-0.061	
INVREC	+	0.519***	0.000	0.478***	0.005	0.680***	0.000	0.699***	0.000	0.635***	0.000	0.685***	0.000
		-0.122		-0.168		-0.065		-0.095		-0.083		-0.085	
INTPCT	+	0.413***	0.000	0.422***	0.000	0.811***	0.000	0.795***	0.000	0.769***	0.000	0.748***	0.000
		-0.074		-0.096		-0.029		-0.045		-0.04		-0.041	
WINGATE	+			0.139***	0.000			0.109***	0.000			0.085***	0.000
				-0.031				-0.018				-0.005	
GDP	+			0.008***	0.001			-0.009***	0.009			0.002	0.338
				-0.003				-0.004				-0.002	
FDI	+			0.009***	0.000			0.004	0.214			0.005***	0.000
				-0.002				-0.003				-0.001	
Constant		-3.402***	0.000	-4.366***	0.000	-0.850***	0.000	-1.277***	0.000	-1.789***	0.000	-2.056***	0.000
		-0.222		-0.343		-0.138		-0.271		-0.367		-0.165	
Year effects		Included		Included		Included		Included		Included		Included	
Country effects		Included		Not included		Included		Not included		Included		Not included	
Number of observations		1601		1601		7046		7046		8647		8647	
Adjusted R-square		0.772		0.757		0.694		0.687		0.705		0.692	

p-value	0.000	0.000	0.000	0.000	0.000	0.000
Schwartz BIC	3721	3777	14886	15011	18859	19111

* p<0.10, ** p<0.05, *** p<0.01 (bivariate tests)
With: CSHCAP (variable SHCAP mean-centered, SHCAP=percentage of controlling shareholders cash flow rights); CSHCAP2 (square of CENTSHCAP).LOGAUDFEE: natural log of audit fee in thousands of U.S dollars; DCAP: the ratio of managers' shareholders cash flow rights on total cash-flow rights; LOGSALES: natural log of sales in thousands of U.S dollars; BIG: 1 if a firm uses one the big 4 auditors, and 0 otherwise; LEV: the ratio of year-end total debt to total assets; INVEC: the sum of inventories and receivables divided by total sales; INTPCT: foreign sales divided by total sales; LAW: 0 if a code law country, and 1 if a common law country; WINGATE: indicator of auditor's litigation risk (Wingate 1997); GDP=gross domestic product per capita in thousands of US dollars; FDI=foreign direct investment (inward) scaled by GDP.
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Table 6: Code vs common law ownership Wald tests

Panel A: Audit fees and type I agency conflict

Test (DCAP) = 0	Code law	Common law	Code vs common law
Chi2	0.13	24.79***	5.11**
p-value	0.720	0.000	0.024

Panel B: Audit fees and type II agency conflict

Test (CSHCAP & CSHCAP2) = 0	Code law	Common law	Code vs common law
Chi2	24.81***	0.55	16.93
p-value	0.000	0.761	0.000

* p<0.10, ** p<0.05, *** p<0.01 (bivariate tests)
With: CSHCAP (variable SHCAP mean-centered, SHCAP= percentage of controlling shareholders cash flow rights); CSHCAP2 (square of CENTSHCAP); DCAP: the ratio of managers' shareholders cash flow rights on total cash-flow rights.

Table 7: Four countries ownership models

LOGAUDFEE		DEU		FRA		GBR		USA	
	signs	b/se	p	b/se	p	b/se	p	b/se	p
CSHCAP	?	-0.535***	0.001	-0.416**	0.042	-0.238	0.185	0.038	0.644
		-0.155		-0.202		-0.179		-0.081	
QSHCAP2	?	-1.151**	0.049	-1.342**	0.029	1.398**	0.021	-0.298	0.270
		-0.582		-0.608		-0.602		-0.27	
DCAP	-	-0.703**	0.022	0.026	0.932	-0.728***	0.001	-0.455***	0.000
		-0.303		-0.309		-0.22		-0.103	
LOGSALES	+	0.597***	0.000	0.691***	0.000	0.546***	0.000	0.457***	0.000
		-0.037		-0.025		-0.02		-0.011	
BIG	+	0.301**	0.014	0.199**	0.012	0.334***	0.000	0.303***	0.000
		-0.121		-0.079		-0.093		-0.045	
LOSS	+	0.323***	0.003	0.281*	0.055	0.199**	0.011	0.287***	0.000
		-0.107		-0.146		-0.078		-0.03	
LEV	+	0.273	0.388	0.646**	0.020	0.592***	0.000	0.305***	0.000
		-0.315		-0.276		-0.167		-0.068	
INVREC	+	-0.015	0.965	0.551**	0.037	0.605***	0.001	0.795***	0.000
		-0.334		-0.262		-0.184		-0.114	
INTPCT	+	0.229	0.224	0.748***	0.000	0.796***	0.000	0.870***	0.000
		-0.188		-0.15		-0.086		-0.055	
Constant		-1.710***	0.001	-3.014***	0.000	-1.127***	0.000	0.504***	0.001
		-0.514		-0.369		-0.269		-0.148	
Year effects		Included		Included		Included		Included	
Country effects		Not included		Not included		Not included		Not included	
N		539		446		1217		5129	
Adj. R^2		0.705		0.868		0.747		0.678	
p-value		0.000		0.000		0.000		0.000	
Schwartz BIC		1350		829		2548		10465	

* p<0.10, ** p<0.05, *** p<0.01(bivariate tests)

With: CSHCAP (variable SHCAP mean-centered, SHCAP=percentage of controlling shareholders cash flow rights); CSHCAP2 (square of CENTSHCAP).LOGAUDFEE: natural log of audit fee in thousands of U.S dollars; DCAP: the ratio of managers' shareholders cash flow rights on total cash-flow rights; LOGSALES: natural log of sales in thousands of U.S dollars; BIG: 1 if a firm uses one the big 4 auditors, and 0 otherwise; LEV: the ratio of year-end total debt to total assets; INVEC: the sum of inventories and receivables divided by total sales; INTPCT: foreign sales divided by total sales.

Table 8: Four countries ownership Wald tests

Panel A: Tests within countries: Audit fees and type I agency conflict

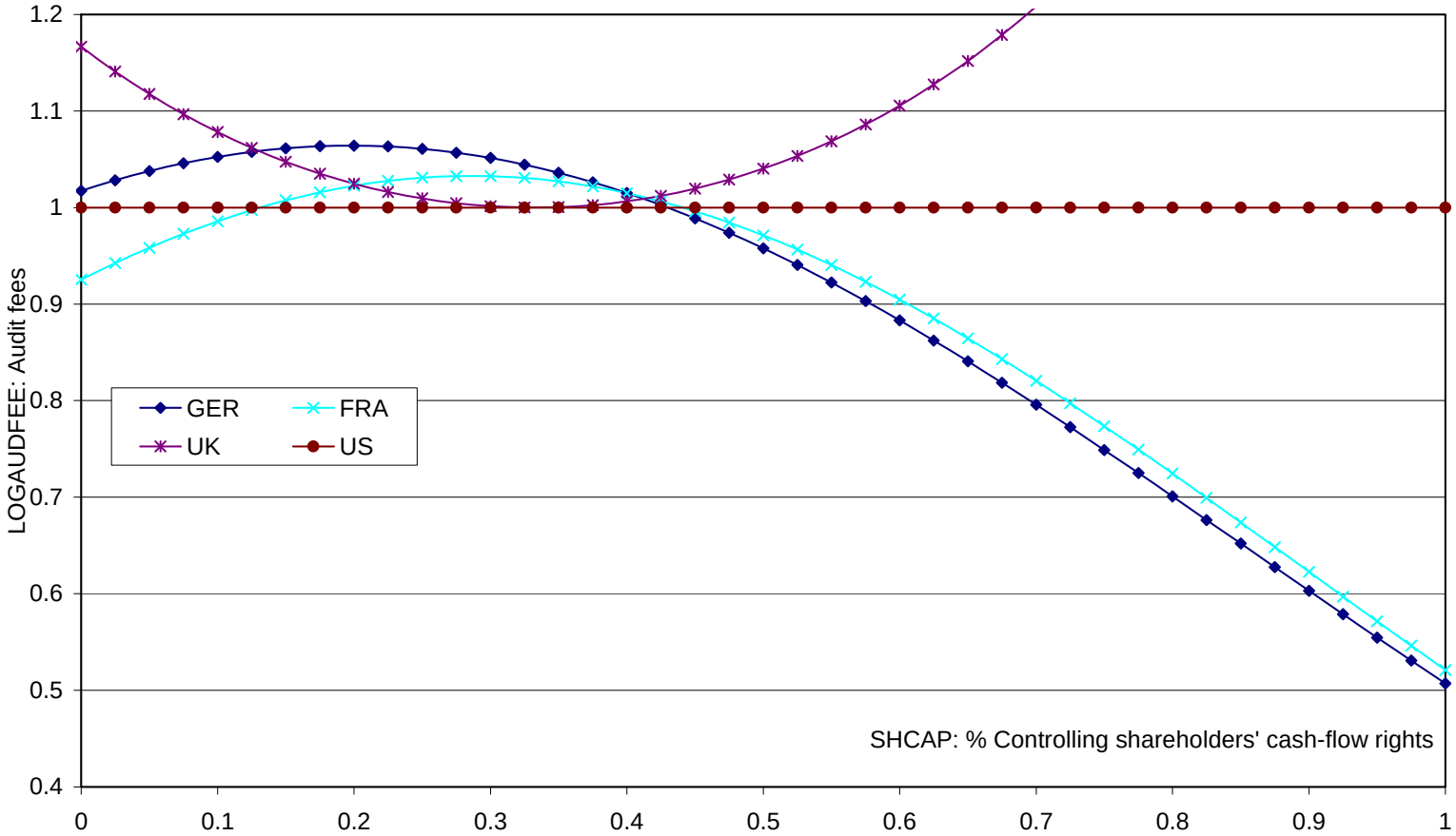
Test (DCAP) = 0	DEU	FRA	GBR	USA
Chi2	5.36**	0.01	10.9***	19.59***
p-value	0.022	0.932	0.001	0.000

Panel B: Tests within countries: Audit fees and type II agency conflict

Test (CSHCAP & CSHCAP2) = 0	DEU	FRA	GBR	USA
Chi2	9.85***	7.15***	3.06**	0.61
p-value	0.000	0.001	0.048	0.543

* p<0.10, ** p<0.05, *** p<0.01 (bivariate tests)
With: CSHCAP (variable SHCAP mean-centered, SHCAP= percentage of controlling shareholders cash flow rights); CSHCAP2 (square of CENTSHCAP); DCAP: the ratio of managers' shareholders cash flow rights on total cash-flow rights.

Figure 1: Audit fees and ownership



Note:
This figure represents the predicted values of LOGAUDFEE for different values of SHCAP, as measured by the following equation:

$$LOGAUDFEE = \beta_1 CSHCAP + \beta_2 CSHCAP2$$

Where β_1 and β_2 are the significant (at 10% level) estimates given for each country by the regression equation presented in Table 7.